

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

ABB AB LEGAL & COMPLIANCE,
INTELLECTUAL PROPERTY
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PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year)		12-04-2005
Applicant's or agent's file reference 9557wo-nw-sh		FOR FURTHER ACTION See paragraph 2 below
International application No. PCT/SE2004/001009	International filing date (day/month/year) 22-06-2004	Priority date (day/month/year) 26-06-2003
International Patent Classification (IPC) or both national classification and IPC B25J 9/00, B65G 47/34, G05B 19/18		
Applicant ABB AB et al		

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further opinions, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

2005.04.26
New info

ME

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Form PCT/ISA/237 (cover sheet) (January 2004)

CORRECTED

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/SE2004/001009

Box No. I Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language, _____, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

- ☐ a sequence listing
☐ table(s) related to the sequence listing

b. format of material

- ☐ in written format
☐ in computer readable form

c. time of filing/furnishing

- ☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

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Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	2-4, 6-14, 16-19, 21-22, 24, 28-34, 36-38	YES
	Claims	1, 5, 15, 20, 23, 25-27, 35	NO
Inventive step (IS)	Claims		YES
	Claims	1-38	NO
Industrial applicability (IA)	Claims	1-38	YES
	Claims		NO

2. Citations and explanations:

Reference is made to the following documents:

D1: EP 0667124 A1
D2: US 5041907 A
D3: EP 0092433 A1
D4: WO 9944171 A1
D5: WO 0124618 A1

Documents D3-D5 represents the state of the art.

The applicant describes the problem of controlling a group of machines, e.g. robots, pick and place machines, to pick up items from a first position and place the item in a second position. To sort objects from a disordered stream requires knowledge and identification regarding shape, size, colour, softness and such. Therefore, the intention of the applicant is to control the pick and place machine with information from a sensor with a data list about the location of the first positions to be moved to a second position.

Document D1 discloses a robotic control system for a needle sorting and feeding apparatus. The control system is provided with a vision tracking device for visually recognizing needles at one or more predetermined locations on a conveyor. The information is registered and determines positional and orientation data for each recognized needle. A memory device temporarily stores positional and orientation data received from the vision tracking device.

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Supplemental Box

In case the space in any of the preceding boxes is not sufficient.

Continuation of: BOX V

Robot control accesses the stored positional and orientation data corresponding to the visually recognized needles from the memory device, and enables one of the robots to pick up the recognized needle in accordance with its respective positional and orientation data and place the needle in the engagement device (see column 2, lines 41 - 56, column 4, line 23 - column 5, line 25, column 8, lines 18 - 22; figures 1, 3, 7, 8).

Document D2 discloses a method and apparatus with a vision equipped robotic system to locate, identify and determine the orientation of objects, and to in real time pick them up and transfer them to a moving or stationary destination. The camera records and identifies images of objects located on a conveyor. The position and orientation of the objects is recorded and transmitted to a motion control device associated with one or several robots. The motion control device coordinates the robots with the object moving on the conveyor to pick up certain objects that are favourably positioned in the robot's pick up zone, and to deposit the objects in a second position (see column 1, line 64 - column 2, line 41, column 4, lines 13 - 24, column 11, line 52 - column 12, line 15; figure 1-3).

Claims 1, 5, 15, 20, 23, 25-27 and 35

The invention according to claims 1, 5, 15, 20, 23, 25-27 and 35 is found in D1 respectively D2 and thus lacks novelty.

Claims 2-4, 6-14, 16-19, 21-22, 24, 28 and 36-38

The features of the invention according to claims 2-4, 6-14, 16-19, 21-22, 24, 28 and 36-38 only shows technical features which are not considered to go beyond what can be expected from a person skilled in the art. To apply and replace any known technical feature of a communication link between a machine to a control unit or machine to machine, use of a logical algorithm, handling marked position to read with identification input symbols, update the position list, or specific use of sensors can not be considered to go beyond what is expected from a man skilled in the art. Since no unexpected technical effect beyond that expected is

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achieved, the application is considered obvious and is not considered to involve an inventive step.

Claims 29-34

The matter of present claim 29 defines a computer data signal embodied in a carrier wave provided with a list of first positions for a plurality of items. The phenomenon to transmit information with a carrier wave is represented by transformation of the carrier wave. Carrier wave itself does not contain any information, without is a wave of fixed amplitude and frequency that is modulated in amplitude, frequency or phase in order to carry a signal transmission. The matter of the computer data signal in claim 29 does not define any technical feature or any attachment to any other claim which supports this description. The matter of present claim extends and relates to all carrier wave which is used for transfer of information, especially in wireless communication. Therefore, it can be questioned if claim 29 indicates the distinctive technical features that are necessary to achieve the matter of the invention. The protection for the matter of the invention must be indicated with clarity for the technical feature of the invention.

The technical features of present claims 32-34 exclusively indicates which standard or type of well known means of communication to apply for transmission of information. Therefore, the matter of the claims 32-34 can be questioned to specify any embodiment of a technical feature related to the dependent claim.

The claimed invention is regarded to be industrially applicable.